

Modernizing Railways

“Movement & Handling”

Sushil Nowal
Sr. Vice President (Planning & Logistics)
JSW Steel Limited, Vijayanagar Works

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JSW Group Overview

A multi-billion-dollar conglomerate, with presence across India, USA, South America & Africa, the JSW Group is a part of the O.P. Jindal Group with strong footprints across core economic sectors..



Bring positive transformation to every life we touch.



JSW GLOBAL BUSINESS SOLUTIONS: Providing Service Support to all JSW Group Companies

JSW Group

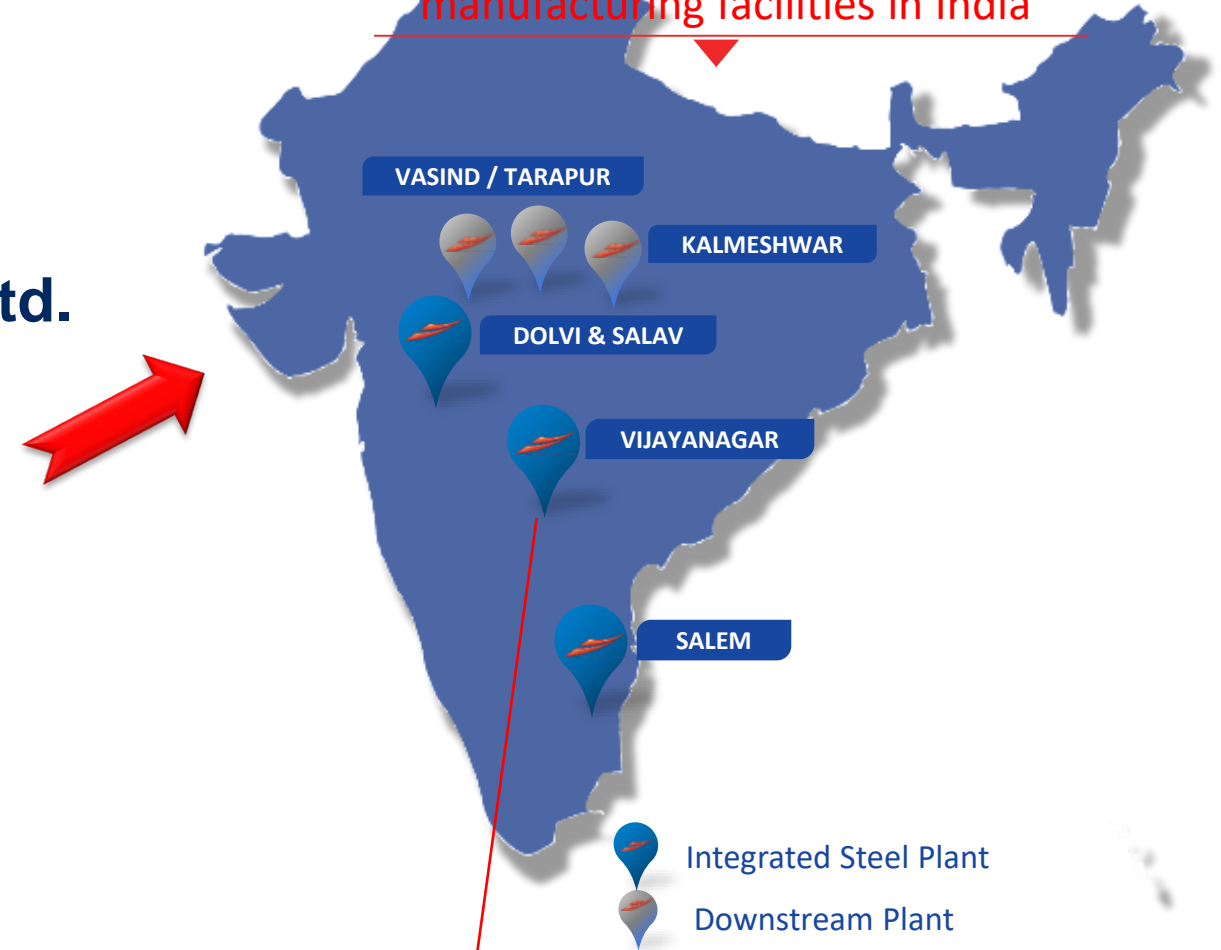
11 Bn USD

EXPANDING PRESENCE ACROSS KEY INFRASTRUCTURE SECTORS



JSW Steel Ltd.
9.3 Bn USD

JSW Steel is India's **Largest Steel manufacturer** with 18 MMTPA with 7 manufacturing facilities in India



Vijayanagar	12 MMTPA
Dolvi	5 MMTPA
Salem	1 MMTPA

JSW Vijayanagar – Flagship of JSW Steel

Fastest growing Steel plant in India with y-o-y growth of 17% since 1999

Vijayanagar Steel Works - India's Largest Integrated Steel Plant
Largest Exporter of Steel from India

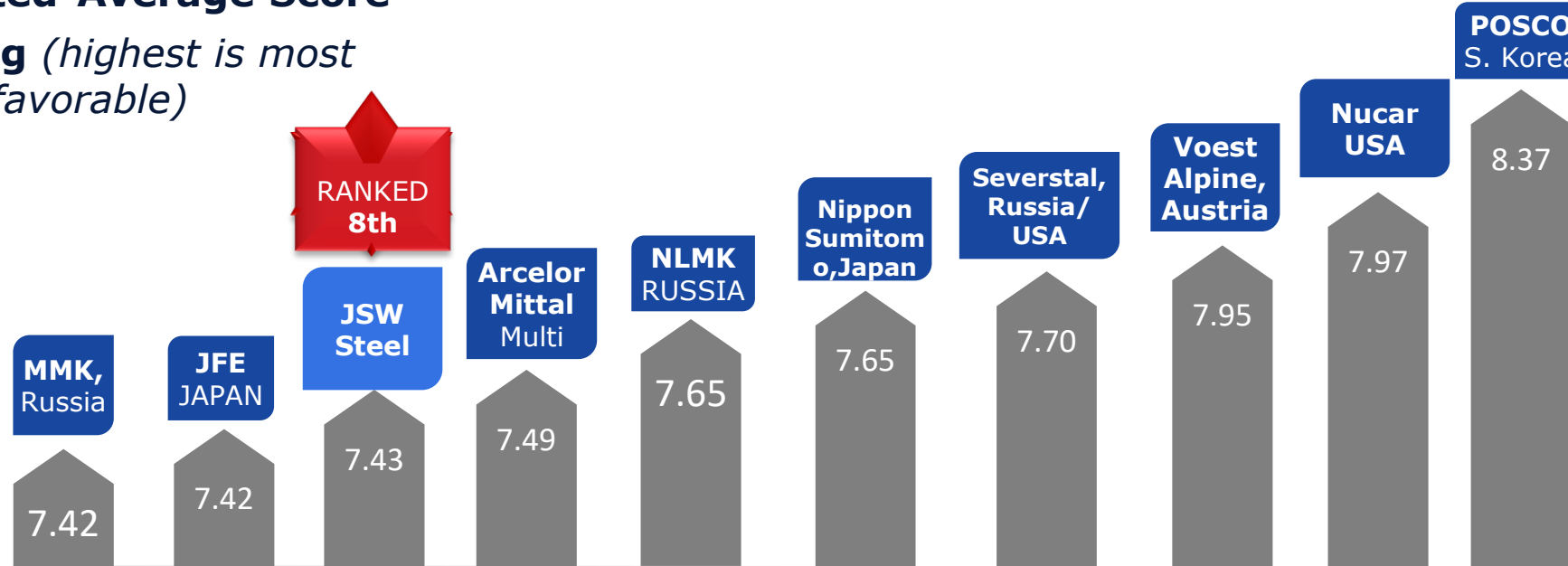


RANKED 8th AMONGST TOP 37 "WORLD-CLASS" STEELMAKERS

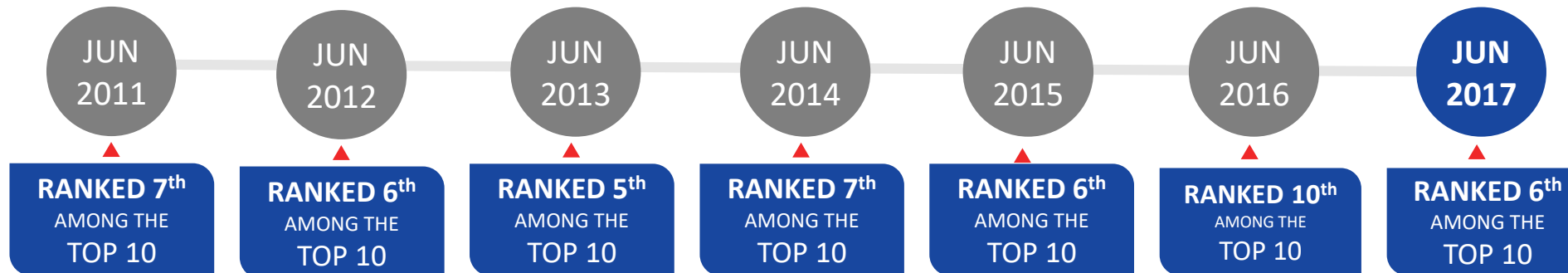
Only Indian Company in the list of TOP TEN

***Weighted-Average Score**

Ranking (highest is most favorable)



- HIGH FACTORS**
- Expanding capacity
 - Location in high-growth markets
 - Conversion costs; yields
 - Labour costs
 - Environment & Safety
 - M&A, Alliances & JVs



SOURCE: World Steel Dynamics - Ranking as on June 2018 (based on 23 parameters)

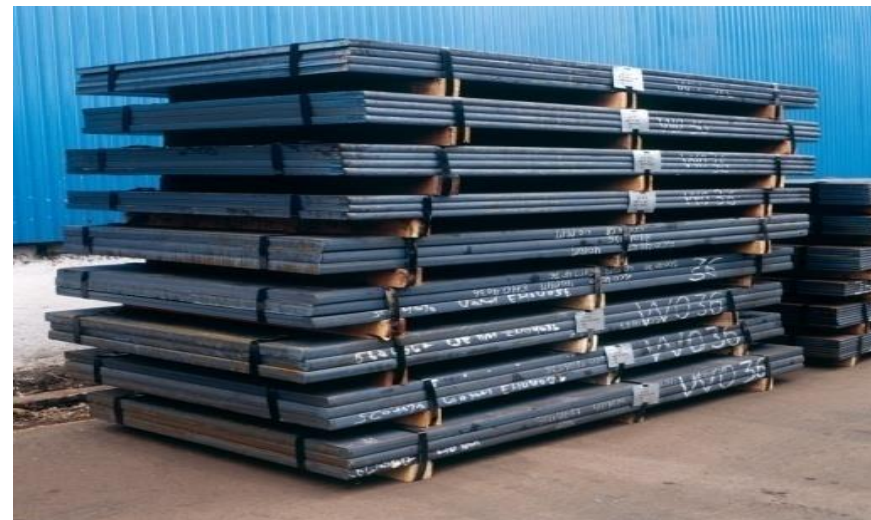
Wide Range of Product offerings

Focus on value added products,
Wider portfolio

Hot Rolled Coils



HR Plates / Sheets



Wire Rods



CRNO



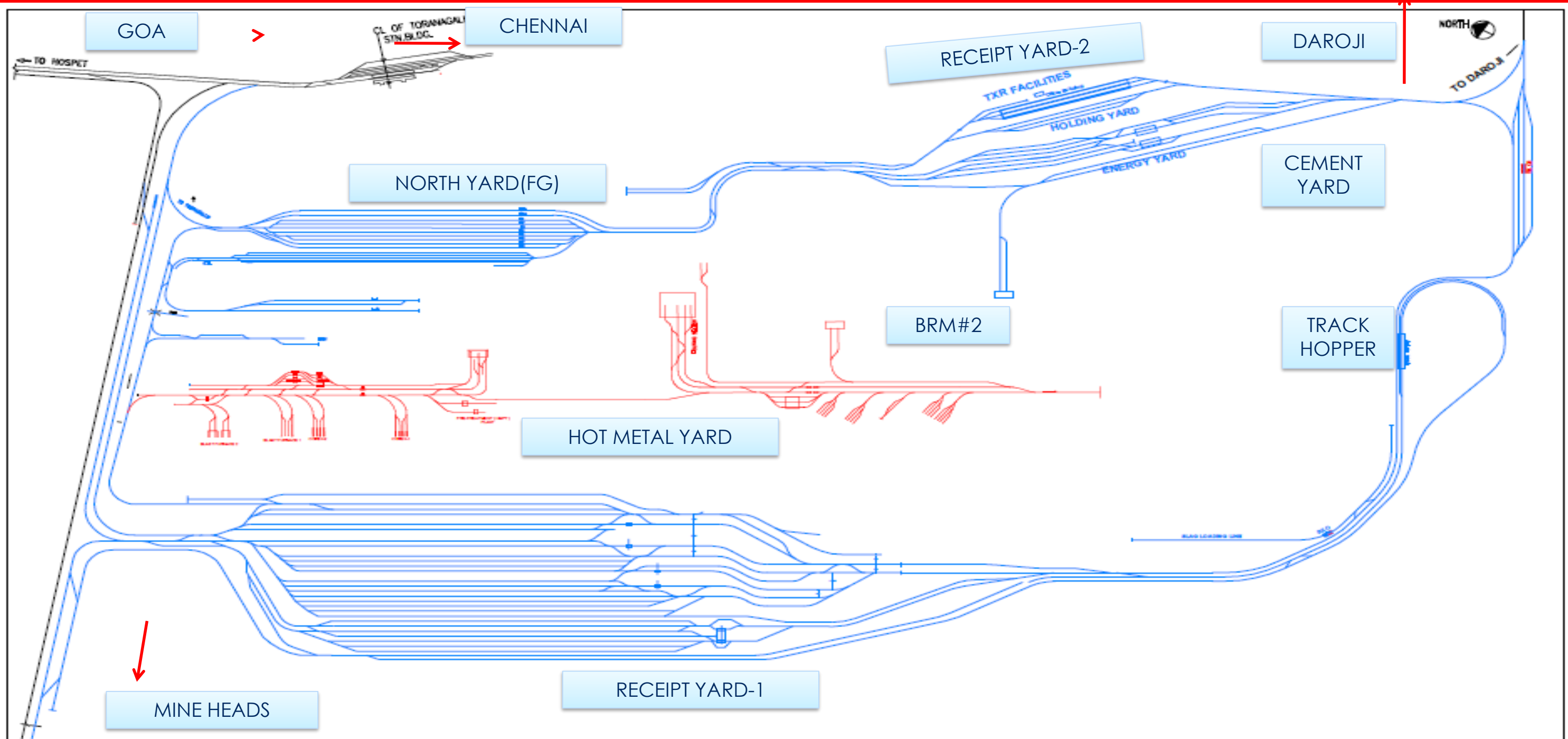
CRCA



TMT Bars



JSW VIJAYANAGAR PLANT RAIL NETWORK : 194 kms track & 52 Own Loco



Infrastructure: Raw Material Receipt Yards



- 34 tracks , 6 Wagon tipplers & 2 twin Wagon tipplers
- 2 Track hoppers.
- 02 Railway approved weigh bridges.

Infrastructure: Rail Dispatch Yard



- 12 loading points
- 2 in-motion weigh bridges
- Wagon supply to loading points at Mills area

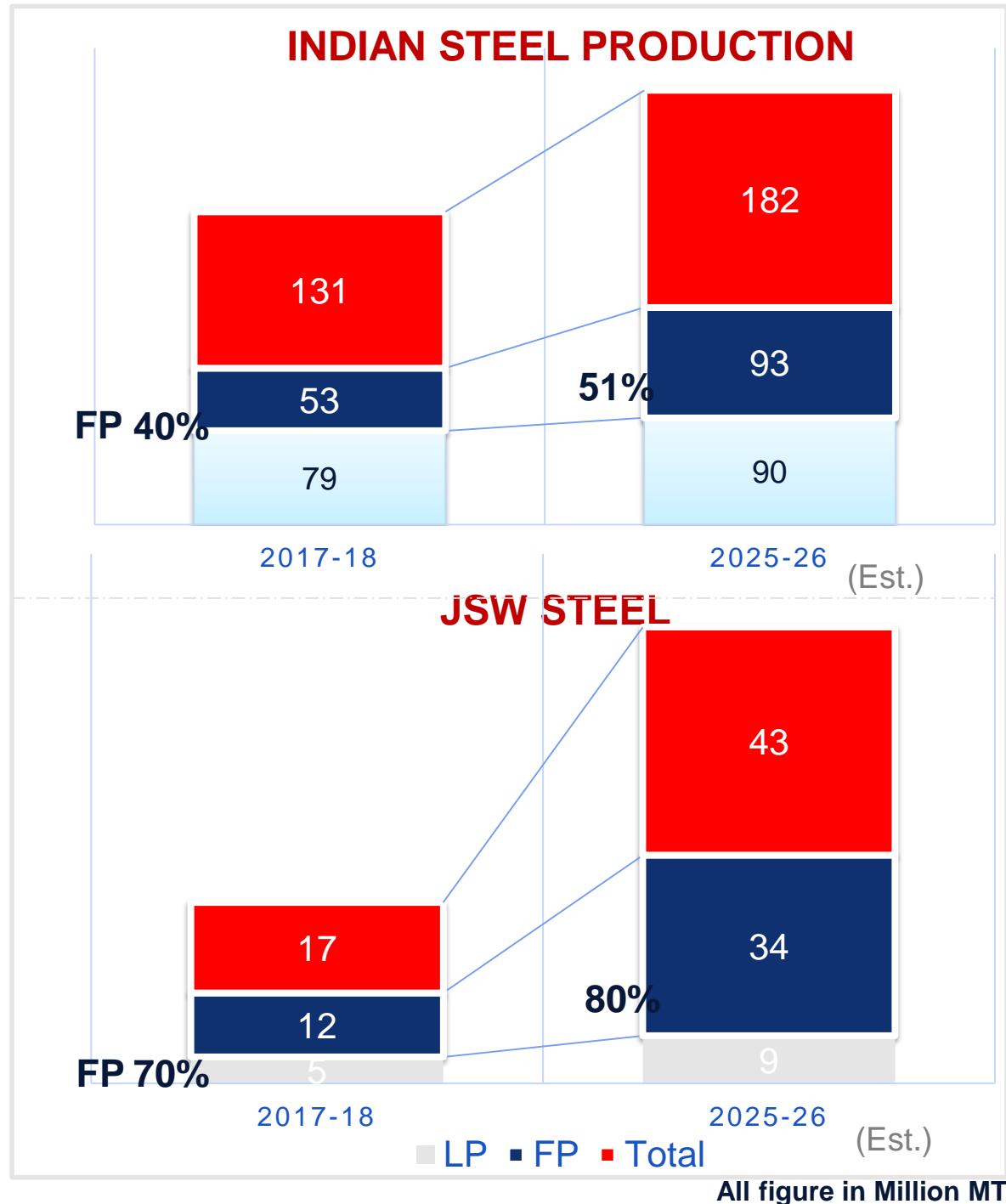
Infrastructure: Dispatch Yard (Cold Rolling Mills)



- ASRS – Auto Storage & Retrieval System
- Vertical Storage of Steel FG – PESMEL
- Storage capacity – 2000 coils
- Coils retrieval speed – 42 per hour.
- Efficient use of storage area

2. Indian Steel Scenario

2. Indian Steel Scenario



- Flat Products to increase to **93 mtpa** by FY26
- JSW flat product share expected to go up to 80% (34 Mtpa) by FY26.
- Flat product - Auto, Consumer durables, General engineering, Roofing, structural, Pipes & Tubes
- Steel Coils are more prone to damage in handling & transportation.
- Cold Rolled product being sensitive
- Flat wagons not suitable for steel coil transportation.
- BFNS types of wagon are currently available for the transportation of steel coils
- JSW has deployed 2 number of BFNS rakes under LWIS scheme.

3. Challenges in Railways

INFRA

- A. Speed of Freight Trains : Present avg. 34kmph
- B. Locomotive Availability & Delays due to Crew Change
- C. High Capacity wagon design to move 70 mt/ wagon
- D. Railway route to be strengthened from 20.3 to 25 ton axle load throughout

POLICY

- A. Heavy Demurrage charges on Coal – 2 , 2.5 & 3 times of normal
- B. Freight increase & Terminal Charges reintroduced
- C. GPLWIS : Rebate structure to be revisited. ROI over 10 years
- D. Priority of rake supply to Coal Movement – affecting other users.

4. Railway infra – Demand from Steel Industry

Availability of Steel Coil specific wagons :

LIMITATIONS IN MATERIAL HANDLING

- Handling through Mobile or EOT crane.
- Forklift unloading not possible

HIGHER SIDING DEVELOPMENT COST:

- OHE sidings cannot be used
- Additional lines at unloading yards

LIMITATIONS IN COIL SIZE

- It carry coils ranging from 1000 mm to 2000 mm dia.
- Locking arrangement – limited



JSW Proposal for Special Wagon :



Salient Features :

- 1 CC of Rake : 4036 MT / Rake for 22.9 axle load – 50% extra loading efficiency
- 2 Coil arrangement in pocket : Eye towards platform / sole bar. Easier/ faster handling
- 3 Wagon with cradles for with locking and lashing arrangement for safety.
- 4 Saddles of suitable slope & height to accommodate coils from 750 mm to 2200 mm diameter.
- 5 Resilient pads/Liner on full face of loading area of saddle, avoid damage to Coils

Operational Advantages :

Low siding development cost

- Siding can be developed at any stations with minimum expenditure
- Less land is required to develop the siding.
- Material can be handled through forklift even in track with OHE line.

Increase in Rail Share

- Siding closer to customer base will reduce the last mile road transportation cost
- Reduction in Delivery cost , Rail competitive than road transport, attract further volume
- Increase in no. of wagon / rake will increase evacuation rate.

Higher efficiency for Railways and manufacturer:

- Lower time in rake placement and evacuation.
- Lesser - turn around time. & loading and unloading of the coils

Reduction in Handling damage

- Handling of Coil by Fork lift will make handling damages case to Zero %

Provision to mount HDPE Collapsible Hood :



INTERNATIONAL WAGON DESIGN

S.No.	Particulars	Values
1	Length over coupler (Meter)	10.963
2	Length over headstock (Meter)	10.034
3	Bogie centers (Meter)	6.69
4	Width overall (Meter)	3.154
5	Height of solebar from R.L. (Meter)	1.269
6	No. of wagons per rake (636 M)	58
7	Carrying Capacity (tonnes)	69.6
8	Max. C.C. per rake (tonnes)	4036.8
9	Axle load (tonnes)	22.9
10	Tare wt. (tonnes)	22
11	Track loading density (t/m)	8.355
12	No. of pockets per wagon	5
13	Coil arrangement in pocket	Eye to platform / sole bar
14	Material of Construction	Micro alloy steel to IS:2062 E450 BR Cu & Structural Steel to IS:2062 E250

BENEFIT'S

100 % Protection of Coil (Cold Rolled)

Increase in customer satisfaction level

Branding of company Products

One Step a head Initiative in Indian Railway for Steel transportation

Handling through fork lift : Faster operations



4. Railway infra – Demand from Steel Industry – contd..

1. Fast-Track Approval mechanism for New Wagon design & development
2. Development of Railway sidings for handling Steel FG – Covered sheds
3. Maintenance or Withdrawl of Damaged wagons - Operation delays
4. CC+4, CC+6 routes may be upgraded to CC+8

5. Reduction of Turnaround Time for Rakes:

1. Unloading & loading in a siding to be clubbed – free time
2. Crew (GDR) may be increased to timely evacuation, lesser detention
3. Bulge/ Damaged wagons segregation from Rake
4. Incentives for faster unloading / loading – Debit / Credit hours system
5. High capacity & reliable in-motion weighbridges required

6. Last Mile connectivity issues & solutions

1. Leasing of Railway space for Storage yards / service centers
2. Development of link roads to Railway Sidings
3. Development of Additional Goods Sheds outside cities
4. Reduce charges on License fees & Codal Charges – Attract interest in customers to invest in Siding development.

7. Optimizing SCM to reduce empty wagon movement

1. Policy on Train Examination to be revisited – Checking after every trip (losing almost 10 days every month on checking)
2. All rakes to be made Closed circuit rakes – with higher validity & kms (9000 kms / 3 months)
3. Empty flow direction policies to be approved for reverse loading in **All zones**
4. Reduction in Slag classification from 140 to 100, will ensure return load of all BOXN rakes from steel plants. (Demand available – Rail freight high)



❖ **THANK YOU**